

DRAFT, 11 July 2005

To: David Barfield, Jeff Schafer, Mark Roth, Todd Sando, Flow Technical Group, and other interested parties

From: Don Jorgensen

Subject: Review and Comments on the Draft Alternatives for a Spring Rise (July 5, 2005).

First I wish to thank you for your timely preparation of the draft outlines for various scenarios. I would like to make some suggestions for the different documents that you have prepared and submitted on 7 July for our consideration. The purpose of this review is not to limit the alternatives to be considered but to improve the alternatives. This is especially important as several of the alternatives as they are now are contentious to many users. Significant emphasis was made on improving the alternatives or making an alternative less contentious to different users. In my efforts to improve the alternatives, two additional concepts were considered. The first concept was that the alternatives should use the best available science as determined by independent science process. This is important because the science in most aspects of designing alternatives is missing or only hypothesized. The second important concept was to make the alternatives less arbitrary and less contentious by using instructions from the Master Manual regarding flow.

(Please note this review nor the suggestions provided does not indicate my support or lack of support for any of the alternatives. As I am not an expert on the concepts of flow management by the Corps there is, of course, room for improvement. However, the suggestions to improve the alternatives are being presented at this time because of time limitations. It should be noted that the time limitations will most likely result in inadequate alternatives being presented to the plenary group. A spring rise for the pallid in 2006 is not a critical point in the recovery of the pallid even in the Ponca to Gavins Point reach because a bimodal spring rise occurred above Sioux City this year. The prevalent logic that "lets do something even if it is wrong" is not defensible.)

Document: Spring Rise Range of Alternatives ---

Page 1, paragraph 1

"A bimodal spring rise is the preferred alternative, but due to insufficient storage a reduced number of rises may be necessary. Plans for one rise should be developed for periods of extended drought and no rise when storage gets very low."

Please consider this revision:

A bimodal rise could be a preferred alternative, but due to insufficient system storage a reduced number of rises may be necessary. Plans for a single rise should be developed

for periods of extended drought and no rise when storage gets very low. If the single rise was the first mode, it is likely that it would have the additional benefit of not having a take for terns and plovers. This plan should be developed using the best available science as compared to designing a plan on unsupported hypotheses.

Page 1, First line in the “Flood Control Targets” section:

“Flood control targets are in the Master Manual for the purpose of balancing the need to evacuate water from the reservoirs with the need to prevent downstream flooding.”

Please consider the revision:

Flood control targets below Gavins Point Dam are set in the Master Manual for the purpose of balancing the need to evacuate system storage water and to prevent downstream flooding.

Page 2, 2nd paragraph.

“When it appears that the navigation season will be shortened by more than two weeks, it may be possible to benefit multiple interests by delaying the start of the navigation season. Saving water early in the season has positive benefits to reservoir recreation and wildlife and Mississippi River navigation.”

The above paragraph is problematic. The navigation season is set in the Master Manual. Specifically, it starts at St. Louis on 1 April each year. This means that flows are increased from Gavins Point a day or so ahead of 23 March. To change the date of the start of navigation season would be very destructive to navigation. Many, or most, of the contracts for barge transport are made months in advance. To start a process of variable starting dates will make planning for transport by barge for practical purposes impossible, and will in effect be an economic preclude, especially, because most barge transport occurs at the beginning of the season.

Please consider the following modification:

When it appears that the navigation season will be shortened by more than two weeks, it may be possible to benefit multiple interests by delaying the start of the navigation season. Saving water early in the season has positive benefits to reservoir recreation and wildlife and Mississippi River navigation. However, not having a set starting would have a critical negative impact on navigation. Reliability is essential to all commerce, especially to navigation, which requires a long lead time.

Page 2, 1st paragraph in section “Timing, Duration, and...”

Delete the “to occurring “.

Document “Modified MBIO53 Alternative”

The Guide Curve presented in the subject document for inter-rise flow shows Full Service starting at a system storage of about 60 MAF based on a check on March 15. However, the master Manual guides show the Full Service should begin when system storage is at 54.5 MAF or greater. Minimum Service is outlined in the Master Manual is when the March 15 check shows that system storage is less than 49.0 MAF and greater than 31 MAF. Proportional service could be applied when system storage is between 49.0 MAF and 54.5 MAF.

(There seems to be no justifiable reason to deliberately design a plan for inter-rise period flow at minimum service unless the system storage is very low. Minimum Service flow at Omaha, Blair, Sergeant Bluff, and Sioux City very sharply reduces the weight of goods that can be transported on a barge. Minimum flow in the Omaha to Sioux City reach is nearly a navigation preclude because of the economics of transporting light loads. Full Service should be the norm if adequate water is available.)

1st sentence below the title of the subject document reads:

“This alternative is based on the MBIO53 modeled by the Corps and modified based on comments and information from the technical group meetings.”

Suggested change:

This alternative is based on the MBIO53 modeled by the Corps and modified based on comments and information from the technical group meetings. Additional future modification of this plan for 2007 and later would be only made after the results are available and analysed. Future modifications of this alternative would not be conducted only if the premise can be justified by independent science.

The “Service level provided during the inter-rise period ... “ section states:

“The modified guide curve developed by the Corps of Engineers would remain for this alternative. If system storage was greater than 60 MAF, full service releases would be made and if the system storage was less than 58.5 MAF, minimum service releases would be made. The service level would be interpolated between minimum service and full service for storage volumes between 58.5 and 60 MAF.”

Suggest the following change:

If system storage is greater than 54.5 MAF, full service releases for the inter-rise period would be used., and if the system storage is between 49.0 MAF and 54.5 MAF, release rates will be prorated from minimum service to full service.

Document “Summer-Rise Alternative”

The Guide curve for inter-rise flow shows Full Service starting at a system storage at about 60 MAF based on a check on March 15. As per the Master Manual, Full Service starts at 54.5 MAF not 60 MAF. Suggestions to improve this plan in addition to using the established Full Service trigger would be to prorate intermediate flow for the

intermediate flow based on actual system storage between minimum service of 31 MAF to Full Service at 54.5 MAF. There seems to be no justifiable reason to deliberately design a plan for intermediate period flow at minimum service unless the system storage is very low. Minimum Service flow at Omaha and Sioux City very sharply reduces the weight of goods to be transported on a barge. Minimum flow in the Omaha to Sioux City reach is nearly a navigation preclude because of the economics of transporting light loads. Full Service should be the norm if adequate water is available.

(It has been stated that because of the take of the nesting and rearing by terns and plovers that a spring rise later than 15 May will result in a very high take. This is seemingly the case, but the BiOp states a spring rise (June rise) was needed for the birds and the fish, and this spring rise was typically in June-July. Thus there is logic disconnect between what is presented in the BiOp and what is being proposed presently. Recent evaluations strongly suggest that the natural June-July rise was not beneficial to nesting and rearing of terns and plovers on the sandbar islands. This information is contrary to what is proposed in the BiOp and Amended BiOP. Further, the Amended BiOp proposes without justification or data that a spring rise is needed for the pallid sturgeon specifically to cue spawning. However, there are significant data and information that strongly suggests that flow is not the controlling factor for triggering spawning of sturgeon. Notwithstanding the above a bimodal spring rise is proposed in the Amended BiOp. This plan or alternative, as all the alternatives, should be based on the best science available. Specifically we are being asked to design a spring rise that in general consists of three elements. Scientists in our technical groups as well as our advisory scientists, state that the purposes of the three elements are unknown and speculative at best. This is another example of not designing the alternatives on the best available information. All alternatives selected to present to the plenary group should be caveated that all subsequent plans will based on the best available science.)

1st sentence below the “Summer Rise Alternative” states:

“The purpose of this alternative is to move the rise into July.”

The following change is suggested:

The purpose of this alternative is to move the rise into July. Additional future modification of this plan for 2007 and later would be only made after the results are available and analyzed. Future modifications of this alternative would not be conducted only if the premise can be justified by independent science.

Document “Maximum Flexibility Rise Alternative”

1st paragraph below title states:

“The purpose of this alternative is to provide MRRIC as much flexibility as possible to design an annual spring rise. Most of the specific parameters of the spring rise would be formulated through an AOP process.”

Suggested change:

The purpose of this alternative is to provide plenary group and MRRIC as much flexibility as possible to design an annual spring rise. Most of the specific parameters of the spring rise would be formulated through an AOP process. Service level and start of navigation season will be in accordance with the Master Manual. Additional modifications of this alternative for 2007 and beyond will be based analysis of all the available data. Science used to formulate future modifications will be justified by an independent science process.

In reference to “Service Level” it is stated:

“The service level provided during the inter-rise period would be based on system storage and the need to evacuate water.”

Suggested change:

The service level provided during the inter-rise period would be based on Mater Manual. In reference to the “Timing, Duration, and Magnitude of a Second Rise” it is stated: “This rise would be designed annually to meet specific needs of the sturgeon or birds. The only limitations are that the peak flow is not to exceed +20,000 cfs and that the peak duration will not be greater than 2 weeks.”

Suggested change:

Any rise or lack of will be based on current science. Ideally this rise would be designed annually to meet specific needs of the sturgeon or birds and not to impose any significant harm to congressionally authorized uses. Any rise will not significantly increase flooding downstream of the Gavins Point to Ponca reach.

Document “Navigation Shift Rise Alternative”

It is shown in the Guide Curves that Full Service during the inter-rise period will start at 60 MAF. It should start at 54.5 MAF as per Master Manual. Proration of discharge during this period based system of 34 MAF and 54.5 MAF would minimize harm to navigation and other downstream users. The above service level guide is troublesome. The guide curves for the inter-rise period should follow the Master Manual.

In reference to “Timing, Duration, and Magnitude of a single mode rise” section:

The shift of the start of the navigation season proposed in this alternative will largely preclude navigation because the largest navigation use is in this period. The shift into later to the fall would provide more water to the Mississippi in the fall; however, significant part of the navigation in the Missouri River ends or starts on the Mississippi River. If Missouri River navigation is curtailed by the late start of the navigation season, Mississippi River navigation will be partially curtailed. Navigation on the Missouri River at low system storage 31 to 49 MAF is already curtailed as it is reduced to minimum service. Thus, this proposal is an unjustified double whammy on navigation unless modified.

Suggestion: A shift to no spring rise below system 40 MAF, and a single rise between 40 and 45 MAF would help save water in the reservoirs. A double rise would occur above 45 MAF. All future spring rises must be based on best science as justified by independent science when the AOP is formulated.

Document “Modified BIO521 Alternative”

The Guide curve for inter-rise flow shows Full Service starting at a system storage at 60 MAF based on a check on March 15. As per the Master Manual, Full Service starts at 54.5 MAF. Suggestions to improve this plan in addition to using the established Full Service trigger would be to prorate intermediate flow for the intermediate flow based on actual system storage between minimum services of 31 MAF to Full Service at 54.5 MAF. There seems to be no justifiable reason to deliberately design a plan for the inter-rise period flow at minimum service unless the system storage is very low. Minimum Service flows at Omaha and Sioux City very sharply reduces the weight of goods that can be transported on a barge in this reach. That is minimum service flow in the Omaha to Sioux City reach is nearly navigation preclude because of the economics of transporting light loads. Full Service should be the norm if adequate water is available.

In reference to the section “Flood Control Targets” it is stated:

“Increased + 16,000 cfs.”

Increasing flood control target to +16,000 would significantly increase the number of flooding incidences at St. Joseph, and denigrate the congressionally authorized flood control function and is not advisable.

Suggestion:

Minimal increase.

In reference to “Service level provided during the inter-rise period of bimodal rises” section:

Service level as per the Master Manual will apply.

Document “MR16F3 Alternative”

In the “Flood Control Targets” section it is stated:

“Increased by 16,000.”

The seeming purpose of increasing the flood-control targets is to give complete freedom of a +16,000 single rise if the system storage is above 46 MAF. This is problematic, an increase of +16,000 cfs in the river reach below the Platte could result in significant flooding (and interior drainage) problems. A +16,000 rise could seemingly be accomplished with little minimum increase of risk of flooding if the increase would not raise the target levels at the various locations above maximum service level. (The MR16M3 alternative is similar in some ways to MR16F3 presented herein. However,

MR16M3 was not included in this set of documents. The MR16M3 is seemingly less harmful in reference to downstream flooding and interior drainage impacts and should be considered as one of the alternatives to be further discussed.)

1st line after “MR16F3 Rise Alternative” title

“This alternative is different in that it only has one rise. It was modeled by the Corps.”

Suggested change:

This Alternative is for a single rise. The alternative was modeled by the Corps. Flow levels before and after the rise are defined as per the rules in the Master Manual. If the rise is early, for example coincidental with the start of navigation season, there would be no take of the birds.

The “Flood Control Targets” sections states:

“Increased by 16,000.”

Change suggested for consideration:

No change if the rise can be made within the Full Service level at the targets. Minimal change if the +16,000 rise exceeds Full Service level at the targets.